

rAnatomy and Physiology I

Chapter 3 Study Guide

- What is the basic unit of life?
- What makes up a eukaryotic cell?
- What is cytoplasm?
- What is the cytosol made of?
- What is the primary component of cellular membrane?
- What are other components of cellular membranes?
- Which portion of the phospholipid is hydrophobic?
- Which portion of the phospholipid is hydrophilic?
- What are the roles of proteins in membranes?
- In what region of the cell do metabolic reactions occur?
- What is in the nucleus of the cell?
- What is the difference between chromatin and chromosomes?
- What occurs in the nucleolus of the nucleus?
- What is the nuclear envelope?
- What are the roles of nuclear pores?
- What are centrioles?
- What is the function of centrioles?
- What are the two types of endoplasmic reticulum?
- What is made in smooth ER?
- What is made rough ER?
- What makes rough ER rough?
- What occurs in the ribosome?
- What occurs in the mitochondria?
- What do golgi bodies do?
- Where do you find a large number of golgi bodies? (What types of cells?)
- What is the primary reaction of cellular metabolism?
- What two phases are involved in the conversion of glucose to ATP?
- How many molecules of ATP are formed during glycolysis?
- How many molecules of ATP are formed during oxidative phosphorylation?
- What other molecule is needed for oxidative phosphorylation to occur?
- What are the waste products of oxidative phosphorylation?
- What phase of the cell cycle does the cell divide into two cells?
- What phase would a cell be in if it never divides?

- What two cell types stay in that phase?
- What cell type is formed after meiosis?
- How many chromosomes are present in each cell after meiosis?
- How many chromosomes are present in each cell after mitosis?
- What are the four phases of mitosis?
- What occurs during each phase of mitosis?
- What is interphase?
- What is the cell doing during interphase?
- Which phase of the cell cycle does DNA replication occur?
- What is the central dogma of cell biology?
- What are the two phases of protein synthesis?
- Where does each phase take place?
- What are the three basic events during transcription?
- What type of bond forms between amino acids?
- Where does post-translational modification occur?
- In what organelle does the protein achieve its folded shape?
- What organelle packages the protein for export?
- What mechanisms does the cell use to transport substances in and out of the cell?
- What are the two types of endocytosis?
- What direction do substances move in simple diffusion? (With or against concentration gradient)
- What affects the rate of simple diffusion?
- In facilitated diffusion, what is required to move larger substances through the membrane?
- Does facilitated diffusion require energy?
- What direction do substances move in facilitated diffusion?
- What moves during osmosis?
- Which direction did substances move from high solute concentration to low or from low solute to high solute concentration?
- Does this violate energetic principles? (energy is required to move from low to high concentrations)
- Which direction do substances move in active transport (with or against gradient)?
- What is required for active transport?